

## Amendments to the Claims

1. **(Currently Amended)** A map display device for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an a user's instruction from a user;

a map data storage part for previously storing map data;

an object model display information storage part for storing object model display information for displaying said at least one object model having a shape which allows the user to understand content of the communications information on said the map image;

a communications part for receiving said the communications information, the communications information including information which varies in real time;

a map data arranging part for creating said the at least one object model by interpreting said the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on said the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part.

2. **(Canceled)**

3. **(Currently Amended)** The map display device according to claim 2 1, wherein said the time varying information which varies in real time is plurally provided provided at least twice.

4. **(Currently Amended)** The map display device according to claim 1, wherein said the communications information includes traffic information.

5. **(Currently Amended)** The map display device according to claim 1, wherein said the communications information includes advertisement information.

*A2*

6. **(Currently Amended)** The map display device according to claim 1, wherein said the communications information includes position information corresponding to a predetermined position on said the map image.

7. **(Currently Amended)** The map display device according to claim 1, wherein said the object model display information comprises:

information about the shape of said the at least one object model; and

information about behavior in time and space of said the at least one object model.

*Cont*

8. **(Currently Amended)** The map display device according to claim 7, wherein said the information about behavior in time and space of said the at least one object model is described in an object-oriented interpreter language ~~having no need for not needing~~ compilation.

9. **(Currently Amended)** The map display device according to claim 7, wherein said the information about behavior in time and space of said the at least one object model includes an execution condition and an execution function.

10. **(Currently Amended)** The map display device according to claim 1, wherein said map data arranging part appropriately arranges said the at least one object model on a road image of said the map image.

11. **(Currently Amended)** The map display device according to claim 10, wherein said map data arranging part creates a plurality of object model models is plurally created and each appropriately arranged arranges the plurality of object models on said the road image.

*A2*  
*Cont*

12. **(Currently Amended)** The map display device according to claim 1, wherein said map data arranging part comprises:

an object model display information execution part for interpreting and executing ~~said the~~ communications information and ~~said the~~ object model display information provided by said object model display information storage part;

an object model creation part for creating ~~said the at least one~~ object model ~~responsively in response~~ to a result obtained by said object model display information execution part; and

a data arranging part for arranging ~~said the at least one~~ object model on ~~said the~~ map image.

13. **(Currently Amended)** The map display device according to claim 12, wherein  
said map data arranging part further comprises a 3D map generation part for generating a 3D map image based on 2D map data provided by said map data storage part, and

    said data arranging part arranges ~~said the at least one~~ object model on the 3D map image generated by said 3D map creation part.

14. **(Currently Amended)** The map display device according to claim 12, wherein  
    said object model creation part creates the at least one object model as a 2D object model,

    said map data arranging part further comprises a 2D/3D coordinate transformation part for transforming ~~a the~~ 2D object model created by said object model creation part into a 3D object model, and

    said data arranging part arranges the 3D object model transformed by said 2D/3D coordinate transformation part on ~~said the~~ map image.

15. **(Currently Amended)** The map display device according to claim 1, further comprising a time information storage part for storing time information corresponding to a position of a mobile unit which moves according to a schedule on a predetermined route, wherein

*A2*  
*Cont*

said map data arranging part refers to-said the time information to create-said the at least one object model to-corresponding correspond to-said the mobile unit for arrangement on-said the map image.

16. **(Currently Amended)** The map display device according to claim 15, wherein said map data arranging part refers to-said the time information to select only the at least one object model corresponding to-said the mobile unit to be displayed on-said the map image, and calculates a position of the at least one object model on-said the map image for data arrangement.

17. **(Currently Amended)** The map display device according to claim 1, wherein  
said communications part receives the communication information including  
information for specifying-a at least one faregate to be passed through, and if-necessary a  
predetermined condition is satisfied, transmits charge information for-a charge  
processing, and

    said map data arranging part creates, if necessary, the at least one-said object  
model-corresponding to said based on the communications information for arrangement  
on-said the map image, and if the predetermined condition is satisfied, generates-said the  
charge information.

18. **(Currently Amended)** The map display device according to claim 17, wherein  
the at least one faregate is a first faregate and a second faregate, and said map data  
arranging part generates-said the charge information by referring to-said the  
communications information related to-said the first faregate placed at an entrance-and an  
exit for-of a predetermined chargeable section and the second faregate located at an exit  
of the predetermined chargeable section, and creates-an another object model including a  
fare for-said the predetermined chargeable section for arrangement on-said the map  
image.

*AD*  
*CMX*

19. **(Currently Amended)** The map display device according to claim 17, further comprising a ticket information storage part for storing ticket information corresponding to a ticket used for paying the fare for ~~said the predetermined~~ chargeable section, wherein said map data arranging part generates ~~said the~~ ticket information stored in said ticket information storage part when ~~said the~~ ticket is purchased, ~~and if necessary,~~ changes ~~said communications information.~~

20. **(Currently Amended)** The map display device according to claim 19, wherein ~~said the~~ ticket information includes information about an expiration date of ~~said the~~ ticket, and said map data arranging part refers to the information about the expiration date of ~~said the~~ ticket, and if ~~necessary~~ ~~the expiration date is approaching~~, creates a message for display on said display part.

21. **(Currently Amended)** The map display device according to claim 1, wherein said communications part receives the communications information including position information about any available ~~vehicle~~ vehicles, and when the user desires to take one of the available ~~vehicles~~ vehicle, transmits selected vehicle information including information for specifying which of the available vehicle vehicles the user desires to take, and said map data arranging part creates ~~said the at least one~~ object model corresponding to ~~said the~~ communications information for arrangement on ~~said the~~ map image, and when the user desires to take one of the available vehicles, generates ~~said the~~ selected vehicle information.

22. **(Currently Amended)** The map display device according to claim 21, wherein ~~said the~~ available vehicles are located within a predetermined area range close to a current position of the user.

23. **(Currently Amended)** The map display device according to claim 21, wherein ~~said the~~ available vehicles move according to a schedule on a predetermined route.

24. **(Currently Amended)** The map display device according to claim 21, wherein said communications part transmits a request for vehicle information including ~~the~~ a current position of the user for an externally provided information center, and receives the communications information including the position information of the available vehicles selected by ~~said~~ the information center.

25. **(Currently Amended)** The map display device according to claim 21, wherein said map data arranging part refers to ~~said~~ the communications information, creates ~~said~~ an object model ~~each~~ corresponding to ~~said~~ each of the available ~~vehicle~~, vehicles and if necessary, creates an object model including information about ~~said~~ available vehicles for arrangement on ~~said~~ map image.

26. **(Currently Amended)** A navigation device for converting externally provided communications information into an applicable object model for arrangement on a map image, and ~~making~~ a providing guidance to a destination, ~~said~~ navigation device comprising:

an input part for receiving ~~a user's~~ an instruction from a user;

a position detection part for detecting a current position;

a map data storage part for ~~previously~~ storing map data;

an object model display information storage part for storing object model display information ~~in advance~~ for displaying ~~said~~ at least one object model having a shape which allows the user to understand content of the communications information on ~~said~~ the map image;

a route selection part for selecting a route to the destination based on ~~said~~ the instruction provided by ~~said~~ input part, ~~said~~ the current position detected by ~~said~~ position detection part, and ~~said~~ the map data stored in ~~said~~ map data storage part;

a communications part for receiving ~~said~~ the communications information, the communications information including information which varies in real time;

*A2  
cont*

a map data arranging part for creating—said the at least one object model by interpreting—said the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on—said the map image based on the communications information;

a guiding part for—making providing the guidance to the destination in response to said the communications information received by said communications part,—said the route selected by said route selection part,—said the current position detected by said position detection part, and—said the map data provided by said map data storage part, and outputs—outputting a resultant map image including the map image and the at least one object model obtained by said map data arranging part; and

a display part for displaying—said the resultant map image outputted from said guiding part.

27. **(Currently Amended)** The navigation device according to claim 26, wherein—said the object model display information comprises:

information about the shape of—said the at least one object model; and

information about behavior in time and space of—said the at least one object model.

28. **(Currently Amended)** The navigation device according to claim 27, wherein—said the information about behavior in time and space of—said the at least one object model is described in an object-oriented interpreter language—~~having no need for not needing~~ compilation.

29. **(Currently Amended)** The navigation device according to claim 27, wherein—said the information about behavior in time and space of—said the at least one object model includes an execution condition and an execution function.

30. **(Currently Amended)** The navigation device according to claim 26, wherein said map data arranging part appropriately arranges-said the at least one object model on a road image of-said the map image.

31. **(Currently Amended)** The navigation device according to claim 10, wherein said map data arranging part creates a plurality of object model models-is plurally created and each-appropriately-arranged arranges the plurality of object models on-said the road image.

32. **(Currently Amended)** The navigation device according to claim 26, wherein said map data arranging part comprises:

an object model display information execution part for interpreting and executing said the communications information and-said the object model display information inputted from said object model display information storage part;

an object model creation part for creating-said the at least one object model responsively in response to a result obtained by said object model display information execution part; and

a data arranging part for arranging-said the at least one object model on-said the map image.

33. **(Currently Amended)** The navigation device according to claim 32, wherein said map data arranging part further comprises a 3D map creation part for generating a 3D map image based on 2D map data provided by said map data storage part, and

said data arranging part arranges-said the at least one object model on the 3D map image generated by said 3D map creation part.

34. **(Currently Amended)** The navigation device according to claim 32, wherein said object model creation part creates the at least one object model as a 2D object model,

1 said map data arranging part further comprises a 2D/3D coordinate transformation part for transforming-a the 2D object model created by said object model creation part into a 3D object model, and

1 said data arranging part arranges the 3d object model transformed by said 2D/3D coordinate transformation part on-said the map image.

35. (Currently Amended) The navigation device according to claim 26, further comprising a time information storage part for storing time information corresponding to a position of a mobile unit which moves according to-a schedule on a predetermined route, wherein

1 said map data arranging part refers to-said the time information to create-said the at least one object model to correspond correspond to-said the mobile unit for arrangement on-said the map image.

AJ  
CmtX

36. (Currently Amended) The navigation device according to clam 35, wherein said map data arranging part refers to-said the time information to select only the at least one object model corresponding to-said the mobile unit to be displayed on-said the map image, and calculates a position of the at least one object model on-said the map image for data arrangement.

37. (Currently Amended) The navigation device according to claim 26, wherein

1 said communications part receives the communication information including information-for specifying-a at least one faregate to be passed through, and if-necessary-a predetermined condition is satisfied, transmits charge information for-a charge processing, and

1 said map data arranging part creates, if necessary, said the at least one object model based on-corresponding to-said the communications information for arrangement on-said the map image, and if the predetermined condition is satisfied, generates-said the charge information.

*A2*

38. **(Currently Amended)** The navigation device according to claim 37, wherein  
the at least one faregate is a first faregate and a second faregate, and  
said guiding part generates ~~said the~~ charge information by referring to ~~said the~~ communications information related to ~~said the~~ first faregate placed at an entrance ~~and an exit for of~~ a predetermined chargeable section and the second faregate placed at an exit of the predetermined section, and

    said map data arranging part creates an another object model including a fare for said the predetermined chargeable section for arrangement on ~~said the~~ map image.

39. **(Currently Amended)** The navigation device according to claim 37, further comprising a ticket information storage part for storing ticket information corresponding to a ticket used for paying the fare for ~~said the predetermined~~ chargeable section, wherein  
    said guiding part generates ~~said the~~ ticket information stored in said ticket information storage part when ~~said the~~ ticket is purchased, ~~and if necessary, changes said communications information.~~

40. **(Currently Amended)** The navigation device according to claim 39, wherein  
    ~~said the~~ ticket information includes information about an expiration date of ~~said the ticket, and~~  
    said map data arranging part refers to the information about the expiration date of ~~said the ticket, and if necessary the expiration date is approaching,~~ creates a message for display on said display part.

*A3*

41. **(Canceled)**

42. **(Currently Amended)** The navigation device according to claim 26, wherein  
    said communications part receives the communications information including position information about any available ~~vehicle~~ vehicles moving on a predetermined ~~route~~ routes, and when the user desires to take one of the available vehicles, transmits selected vehicle information including information for specifying which of the available vehicle vehicles the user desires to take, ~~said map data arranging part creates said object~~

~~model corresponding to said communications information for arrangement on said map image, and~~

    said guiding part generates ~~said the~~ selected vehicle information when the user desires to take one of the available vehicles.

43. **(Currently Amended)** The navigation device according to claim 42, wherein ~~said the~~ available vehicles are located within a predetermined area range close to ~~a~~ ~~the~~ current position of the user.

44. **(Currently Amended)** The navigation device according to claim 44, wherein ~~said the~~ available vehicles move according to ~~a~~ schedule on the predetermined ~~route routes~~.

*AB  
Cmt*  
45. **(Currently Amended)** The navigation device according to claim 44, wherein said guiding part compares, at least, ~~said the~~ predetermined ~~route routes~~ on which ~~said the~~ available vehicles move with the route to the destination selected by said route selection part, and determines whether the available vehicles are appropriate.

46. **(Currently Amended)** The navigation device according to claim 42, wherein said communications part transmits a request for vehicle information including ~~the~~ ~~a~~ current position ~~for~~ ~~to~~ an externally provided information center, and receives the communications information including the position information of the available vehicles selected by ~~said the~~ information center.

47. **(Currently Amended)** The navigation device according to claim 42, wherein said map data arranging part refers to ~~said the~~ communications information, creates ~~said an~~ object model corresponding to ~~said each of the available vehicle vehicles, and if necessary, creates an object model each including information about said available vehicles for arrangement on said map image.~~

48. **(Currently Amended)** A map display method for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display method comprising:

an input-step process of receiving an a user's instruction from a user;

a communications-step process of receiving said the communications information, the communication information including information which varies in real time;

a map data arranging-step process of creating said at least one object model having a shape which allows the user to understand content of the communications information by interpreting said the communications information and corresponding object model display information for displaying said the at least one object model at a position on said the map image based on the communications information; and

a display-step process of displaying a resultant map image including the map image and the at least one object model obtained in said map data arranging-step process.

A3  
Cmt

49. **(Currently Amended)** The map display method according to claim 48, wherein said map data arranging-step process comprises:

an object model display information execution-step process of interpreting and executing said the communications information and said the object model display information;

an object model creating-step process of creating said the at least one object model responsively in response to a result obtained in said object model display information execution-step process; and

a data arranging-step process of arranging said the at least one object model on said the map image.

50. **(Currently Amended)** The map display method according to claim 49, wherein

said map data arranging-step process further comprises a 3D map generating-step process of generating a 3D map image based on said 2D map data being 2D, and

in-said data arranging-step process, said comprises arranging the at least one object model is arranged on the 3D map image generated in said 3D map creating-step process.

51. **(Currently Amended)** The map display method according to claim 49, wherein  
said object model creating process comprising creating the at least one object  
model as a 2D object model,

said map data arranging-step process further comprises a 2D/3D coordinates transformation-step process of transforming-a the 2D object model created in said object model creating-step process into a 3D object model, and

in-said data arranging-step, process comprises arranging the 3D object model transformed in said 2D/3D coordinates transformation-step is arranged process on-said the map image.

A3  
cont

52. **(Currently Amended)** The map display method according to claim 48, wherein,in  
said map data arranging-step, process comprises creating the at least one object model  
corresponding to a mobile unit for arrangement on the map image by referring to time  
information corresponding to a position of-a the mobile unit moving on a predetermined  
route according to\_a schedule is referred to for creating said object model corresponding  
to said mobile unit for arrangement on said map image.

53. **(Currently Amended)** The map display method according to claim 48, wherein  
in-said communications-step, process comprises receiving the communication  
communications information including information for specifying-a at least one faregate  
to be passed through-is received, and if necessary a predetermined condition is satisfied,  
transmitting charge information for-a charge processing-is transmitted, and

in-said map data arranging-step, if necessary, said process comprises creating the  
at least one object model corresponding to-said the communications information-is  
created for arrangement on-said the map image, and said if the predetermined condition is  
satisfied, generating charge information-is generated.

54. **(Currently Amended)** The map display method according to claim 48, wherein  
in-said communications-step, process comprises receiving the communications  
information including position information about any available-vehicle-is received

vehicles, and when the user desires to take one of the available vehicles, transmitting selected vehicle information including information for specifying which of the available vehicle vehicles the user desires to take ~~is transmitted~~, and

~~in-said map data arranging-step, said process comprises creating the at least one object model corresponding to-said the communications information-is created for arrangement on-said the map image, and when the user desires to take one of the available vehicles, said generating the selected vehicle information-is generated.~~

55. (Currently Amended) A navigation method for converting externally provided communications information into an applicable object model for arrangement on a map image, said navigation method comprising:

*A3  
Cmt*

- an input-step process of receiving ~~a user's~~ an instruction from a user;
- a communications-step process of receiving ~~said the~~ communications information, the communications information including information which varies in real time;
- a position detection-step process of detecting a current position;
- a map data arranging-step process of creating ~~said~~ at least one object model having a shape which allows the user to understand content of the communications information by interpreting ~~said the~~ communications information and ~~the~~ object model display information ~~provided by~~ said object model display information storage part, and arranging the at least one object model at a position on-said the map image based on the communication information;

- a route selection-step process of selecting a route to ~~the~~ a destination based on ~~said the~~ instruction inputted received in said input-step process, ~~said the~~ current position detected in said position detection-step process, and ~~said~~ map data;

- a guiding-step process of ~~making the providing~~ guidance to the destination in response to ~~said the~~ communications information received in said communications-step process, ~~said the~~ route selected in said route selection-step process, ~~said the~~ current position detected in said position detection-step process, and ~~said the~~ map data, and outputting a resultant map image including the map image and the at least one object model obtained in said map data arranging-step process; and

a display-step process of displaying said the resultant map image outputted in said guiding-step process.

56. (Currently Amended) A program recorded on a computer-readable recording medium having a program recorded thereon operable to be executed in a map display device for converting externally provided communications information into an applicable object model for arrangement on a map image, said program comprising:

an object model display information execution-step of process operable to interpreting interpret and executing execute said the communications information and object model display information for displaying said at least one object model on said the map image, wherein the communications information includes information which varies in real time;

an object model creating-step of process operable to creating create said the at least one object model responsively having a shape which allows the user to understand content of the communications information in response to a result obtained in said object model display information execution-step process; and

a data arranging-step of process operable to arranging arrange said the at least one object model at a position on said the map image based on the communications information.

57. (Currently Amended) A program recorded on a computer-readable recording medium having a program recorded thereon operable to be executed in a navigation device for converting externally provided communications information into an applicable object model for arrangement on a map image, said program comprising:

an object model display information execution-step of interpreting process operable to interpret and executing said execute the communications information and object model display information for displaying said at least one object model having a shape which allows a user to understand content of the communication information at a position on said the map image based on the communications information, wherein the communications information includes information which varies in real time;

a route selection process operable to step of selecting select a route to a destination based on the an instruction inputted from the user, a current position, and map data; and

a guiding step of making the process operable to provide guidance to the a destination in response to said the communications information, said the route selected in said route selection step process, said the current position, and said the map data, and outputting output a resultant map image obtained in said map data arranging step including the map image and the at least one object model.

58. **(Currently Amended)** A computer program to be executed in a map display device for converting externally provided communications information into an applicable object model for arrangement on a map image, said computer program comprising:

A3  
Cont'd

an object model display information execution step of process operable to interpreting interpret and executing execute said the communications information and object model display information for displaying said at least one object model on said the map image, wherein the communications information includes information which varies in real time;

an object model creating step of process operable to creating create said the at least one object model responsively having a shape which allows the user to understand content of the communications information in response to a result obtained in said object model display information execution step process; and

a data arranging step of process operable to arranging said arrange the at least one object model at a position on said the map image based on the communications information.

59. **(Currently Amended)** A computer program to be executed in a navigation device for converting externally provided communications information into an applicable object model for arrangement on a map image, said computer program comprising:

an object model display information execution step of process operable to interpreting interpret and executing execute said the communications information and object model display information for displaying said at least one object model having a

shape which allows a user to understand content of the communications information at a position on said the map image based on the communications information, wherein the communications information includes information which varies in real time;

a route selection step of process operable to selecting select a route to a destination based on an instruction inputted from a user, a current position, and map data; and

X3  
unl  
a guiding step of making the process operable to provide guidance to the destination in response to said the communications information, said the route selected in said route selection step process, said the current position, and said the map data, and outputting output a resultant map image obtained in said map data arranging step including the map image and the at least one object model.

60. (New) The map display device according to claim 1, wherein the communications information includes information indicating a frozen road.

Azf  
61. (New) The map display according to claim 1, wherein the communications information includes traffic jam information indicating a jammed road, and said map data arranging part arranges the at least one object model representing a traffic jam in a region of the image map corresponding to the jammed road.

62. (New) The map display device according to claim 61, wherein said map data arranging part arranges a plurality of object models representing vehicles in the region of the image map corresponding to the jammed road.

63. (New) The map display device according to claim 1, wherein the communications information includes under-construction information including information indicating a road under construction, and said map data arranging part arranges the at least one object model representing construction in a region of the map image corresponding to the road under construction.

64. (New) The map display device according to claim 63, wherein said map data arranging part arranges a plurality of object models representing construction workers in the region of the map image corresponding to the road under construction.

65. (New) The map display device according to claim 1, wherein the communications information includes accident information including information indicating a site of an accident, and said map data arranging part arranges the at least one object model representing a traffic accident in a region of the map image corresponding to the site of the accident.

66. (New) The map display device according to claim 65, wherein said map data arranging part arranges the at least one object model representing a wrecked vehicle in the region of the map image corresponding to the site of the accident.

A4  
cont

67. (New) The map display device according to claim 1, wherein the communications information includes information indicating availability of the specific parking lot, and said map data arranging part arranges the at least one object model representing the availability in a region of the map image corresponding to the specific parking lot.

68. (New) The map display device according to claim 67, wherein said map data arranging part arranges a plurality of object models representing vehicles in the region of the map image corresponding to the specific parking lot.

69. (New) The map display device according to claim 1, wherein said map data arranging part creates the at least one object model as a planar-shaped 3D object and arranges the planar-shaped 3D object substantially vertical to a ground plane on the map image.

70. (New) The map display device according to claim 19, wherein said map data arranging part changes the communications information based on the ticket information.

71. (New) The map display device according to claims 25, wherein said map data arranging part also creates object models including information about the available vehicles for arrangement on the map image.

72. (New) The navigation device according to claim 39, wherein said guiding part changes the communications information based on the ticket information.

73. (New) The navigation device according to claim 47, wherein said map data arranging part also creates object models including information about the available vehicles for arrangement on the map image.